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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ATTORNEY DOCK

Jacque C.S. Kools et al.

Date Filed:

November 12, 2003

Serial No.:

10/706,637

Group Art Unit:

2822

Examiner:

Kevin M. Picardat

Title:

Method and Apparatus for Fabricating a Conformal

Thin Film on a Substrate

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this Information Disclosure Statement is being deposited with the United States Postal Service as Express Mail No. <u>EV351287575US</u> addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 18, 2005.

Angela Loding

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Applicants respectfully request, pursuant to 37 C.F.R. §§1.56, 1.97, and 1.98, that the references listed on the attached PTO-1449 form be considered and cited in the examination of the above-identified application. Since the present Application was filed after June 30, 2003, a copy of any U.S. Patent and any U.S. Patent Application Publication cited on the attached PTO Form 1449 is not being submitted with this Information Disclosure Statement pursuant to the July 11, 2003 waiver of 37 C.F.R. §1.98(A)(2)(i) by the U.S. Patent and Trademark Office.

Furthermore, pursuant to 37 C.F.R. §§1.97 (g) and (h), no representation is made that these references are material to the patentability of the present application.

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Applicants believe no fees are due, however, the Commissioner is hereby authorized to charge any fee to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

Respectfully submitted,

BAKER BOTTS L.L.P. Attorneys for Applicants

Paula D. Heyman Reg. No. 48,363

Date: Feb. 18, 2005

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PT	D-1449	9			Application No.		Applicant(s)					
		5	0 11 11		10/706,637	Jacques C.S. Kools						
	(A) IIO	Impation Disclos		ו	Docket Number		Group Art Ur		Filing Date			
		දී/	ation		021208.0247 2822				November 12, 2003			
3.	TEB 1	8 2005 8 S		U.S	. PATENT DOCUMENTS				-			
_ <u> </u>	ETRAC	U. PACE DOCUMENT NO. DATE			NAME		CLASS S		SUBCLASS		FILING DATE	
_	A.	5616177	4/1/1997		Yamada_		117	1	02	2/22/95		
	В.	5879459	3/09/1999	_	Gadgil et al.		118	715		8/29/97		
	C.	5916365	6/29/1999		Sherman		117	92		8/16/96		
	D.	5930046	7/27/1999		Solberg et al.		359	580		9/30/97		
	E.	5944964	8/31/1999		Solberg et al.		204	19	2.26	2/	2/13/97	
	F.	6015590	1/18/2000		Suntola et al.		427	25	5.23	09/	/25/96	
	G.	6144060	11/7/2000		Park et al.	ļ	257	3	310	7/3	7/31/98	
	Н.	6174377	1/16/2001		Doering et al.	ļ	118	7	29	1/4/99		
	I.	6200893	3/13/2001		Sneh	ļ	438		85	3/11/99		
	J.	6200866	200866 3/13/2001 Ma et al.		<u> </u>	438	299		9/30/99			
	К.	2001/0024387	9/27/2001	Raaijmakers et al.			365	200		2/22/01		
	Ļ.	6319439	11/20/2001		Lee et al.	ļ	264		81	2/25/00		
	М.	6335240	1/1/2002	Kim et al.		<u> </u>	438	253		1/6/99		
	N.	6342277	1/29/2002		Sherman		427		62	4/	14/99	
O. 2002/0013487 1/31/2002				Norman et al.	<u> </u>	556		7	2/:	22/01		
				FORE	IGN PATENT DOCUMENT	rs						
		DOCUMENT NO. DATE			COUNTRY		CLASS SUB		CLASS	YES	SLATION NO	
	P.	62221102	09/29/1987	JP	(with English abstract)		H01F		1/14		Х	
	Q.	00/38191	06/29/2000		wo	<u> </u>	G11C		11/15		i	
	R	02/09126	01/31/2002		wo	ļ	H01F		0/32	×	_	
	S.	02/09158	01/31/2002		wo	<u> </u>	H01L	2	1/00	x		
	Т.	01/88972	11/22/2001		wo		H01L 21/321		/321	X		
		NON-PATEN	T DOCUMENTS -	DOCUM	ENT (Including Author, T	itle, S	ource, and Pe	rtinent P	ages)			
	U.	Addison, C.C. et al. "The State", J. Chem. Soc.,		e of Anh	ydrous Copper Nitrate, and	its Mo	olecular Weight	in the Va	ipour	1958		
	V.	Akerman, J.J et al., "Ide wide web, physics.ucso			magnetic-Insulator-Ferrom , pp. 1-6,	agnet	c Thin Film Str	uctures",	World-		Printed 02/04/2002	
	w.	Bobo, J.F. et al., "Spin- Physics, vol. 83, No. 1		ing Junc	tions with Hard Magnetic la	yer Pi	nning", <i>Journal</i>	of Applie	ed	1	1998	
	X.	Daughton, J.M., World-	wide web nve.com	/otherbi	z/mram2.pdf, *Advanced M	RAM	Concepts*, pp.	1-6		02/0	7/2001	
	Y.	Fereday, R.J. et al., "Anhydrous Cobalt (III) Nitrate", Chemical Communications, pp. 271									1968	
EXA	MINER					DA'	TE CONSIDERI	ED				
												
		: Initial if citation considered			in conformance with MPEP §	609. [raw line through	h citation i	f not in con	tormance	and not	

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PTO-1	449			Application No.	Applicant(s)						
In	formation Disclos	ura Citatian		10/706,637	Jacques C.S. Kools et al.						
Iri	in an Applic		1	Docket Number				Filing Da	Date		
				021208.0247				Novem	nber 12, 2003		
	U.S. PATENT DOCUMENTS										
	DOCUMENT NO.	DATE		NAME		CLASS S		SUBCLASS		IG DATE	
A.	6358632	3/19/2002	Dickey et al.			428 690		90	11/10/98		
В.	2002/0041931	4/11/2002	Suntola et al.			427 29		5.28	5/14/01		
C.	6391785	5/21/2002	Satta et al.			438		704		8/23/00	
D.	6416577	7/9/2002		Suntola et al.		117		88	06/07/00		
E.	6420230	7/16/2002		Derdenan et al.		438	2	255	8/	/31/00	
F.	2002/0106846	8/8/2002		Seutter et al.		438	2	200	2/2/01		
G.	2002/0106846	8/8/2002		Seutter et al.		438	2	.00	2/2/01		
H.	2002/0108570	8/15/2002		Lindfors		118	7	15	4/16/01		
1.	6441417	8/27/2002		Zhang et al.		257 29		95	3/28/01		
J.	6444495	9/3/2002		Leung et al.		438 118			1/11/01		
К.	6447607	6447607 9/10/2002 Soininen et al.				117	200			12/27/00	
L.	6448192 9/10/2002			Kaushik		438	785		4/16/01		
M.	6451119*	9/17/2002		Sneh et al.		118		15	11/29/00		
N.	6451695	9/17/2002		Sneh		438	685		12	/22/00	
0.	2002/0137260	9/26/2002		Leung et al.		438	1	18	1/	1/11/01	
P. 2002/0140103 10/3/2002				Kloster et al.		257	7	67	3/	28/01	
	· · ·		FOR	EIGN PATENT DOCUMENT	s						
	DOCUMENT NO.	DATE		COUNTRY		CLASS	SUB	CLASS	YES NO		
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	NON-PATEN	T DOCUMENTS -	DOCU	MENT (Including Author, Ti	itle, Sc	ource, and Pe	rtinent P	ages)			
s.				eads and Dry Etching Head N	Materia	ils", IBM Journ	al of Res	earch		1000	
Т.	and Development, vol. Imai, Takuji, World-wide Around the Corner, pp	e web nikkeibp.asi			675.ht	75.html, "100 Gbit/Inch HDD Just				1999 08/2000	
U.	Nilsen, O et al, "Thin Fi Chemistry, vol. 9, pp. 1		nthanu	m Manganite Perovskite by t	the AL	E Process", Jo	oumal of M	Materials	_	1999	
V.	V. Pakrad, C.D., "Pure Tech: Growth of MR/GMR Head Materials," World-wide web, puretechinc.com/tech papers/tech papers-4.htm, pp. 1-2							1999			
w		perature Deposition	on of A	N Films by an Alternate Syp	py of T	rimethyl Alum	inum and	• = .		1996	
X.		book of Crystal Gro	wth, vo	ol. 3, Thin Films and Epitaxy,	Part E	: Growth Med	hanisms a	and		1994	
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PTO	D-1449)			Application No.	A	Applicant(s)					
					10/706,637	J	Jacques C.S. Kools et al.					
Information Disclosure Citation					Docket Number		Group Art I	Jnit	Filing Dat	ing Date		
		in an Applica	ation		021208.0247		2822		November 12, 2003		2003	
_												
		DOCUMENT NO.	DATE		NAME		CLASS		CLASS	FILIN	G DATE	
	Α.	6464779	10/15/2002		Powell et al.		117		89		19/01	
	B.	6475910	11/5/2002		Sneh		438		685		9/22/00	
-	C.	6475276	11/5/2002		Elers et al.		117		34	10	10/13/00	
	D.	6482262	11/19/2002	Elers et al.			117		84		10/13/00	
	E.	6482740	11/19/2002		Soininen et al.		438	6	86	5/	15/01	
	F.	2002/0187084	12/12/2002		Lindfors et al.		422	1	77	7/:	24/02	
	G.	6503330	1/7/2003	Sneh et al.			118	7	15	12/22/99		
	н.	6506352	1/14/2003		Lindfors et al.		423	2	240 7/2		20/00	
	I.	6524952	2/25/2003		Srinivas et al.		438	6	649		6/20/00	
	J.	6540838	4/1/2003		Sneh et al.		118		715		6/28/02	
	К.	6548424	4/15/2003	Putkonen			438		785		4/16/01	
	L.	6551406	4/22/2003		Kilpi		118 7		28	3 12/27/00		
	М.	6562140	5/13/2003	Bondestam et al.			118		15	5/10/00		
	N.	2003/0096468	5/22/2003	Soininen et al.			438	2	00	11/19/02		
	О.	6572705	6/3/2003		Suntola et al.		118 702		02	1/14/00		
:	P.	2003/0101927	6/5/2003		Raaijmakers		117	2	00	12	10/02	
				FORE	IGN PATENT DOCUMENT	s						
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		NON-PATENT	DOCUMENTS	- DOCUM	IENT (Including Author, Ti	tle, So	urce, and Pe	rtinent Pa	ages)			
	R.				O2/SiN/CU via Structures L VAc. Sci. Technology B, vo				Oxygen	Nov./Dec. 1998		
	S.	Utriainen, et al., "Studie Precursors", Applied Su			n an Atomic Layer Epitaxy r p. 151-158.	eactor	Using M(acad	:)2(M=Ni,	Cu, Pt)	2	2000_	
	т.				ly High Density Magnetic Re ord, CA 94305-4045, presen		g Heads," De	partment o	of		no date available	
	U.	World-wide web, megahaus.com/tech/westerndigital/shitepapers/gmr_wp.shtml., "GMR Head Technology:									/2000	
	V.	World-wide web, pcguid	le.com/ref/hdd/d	p/heads/te	echGMR-c.html, "Giant Mag	netores	sistive (GMR)	Heads", p	p. 1-4.		inted 8/2004	
	W.	World-wide web, pcguide.com/ref/hdd/op/heads/techGMR-c.html, "Giant Magnetoresistive (GMR) Heads", pp. 1-4. World-wide web, semiconductor.net/semiconductor/issues/Issues/1998/feb98/docs/emerging.asp, "GMR Read-Write Heads Yield Data Storage Record," pp. 1-2.									02/1998	
	X.	World-wide web, stoner.leeds.ac.uk/research/gmr.htm, "Giant Magnetoresistance (GMR) Heads", pp. 1-6.									Printed 02/04/2002	
EXA	MINER			<u> </u>		F	CONSIDER					
		Initial if citation considere			in conformance with MPEP § (e applicant.	609. Dr	aw line through	h citation is	f not in con	formance	and not	

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PTO-	- -1449	<u> </u>		Application No.	Applicant(s)					
				10/706,637	Jacques C.S					
J	nfo	rmation Disclos		Docket Number	Group Art U	Jnit Filing Da	te			
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			-	U.S. PATENT DOCUMENTS	U.S. PATENT DOCUMENTS					
		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE			
/	Α.	6579374	6/17/2003	Bondestam et al.	118	725	1/25/01			
E	В.	2003/0121469	7/3/2003	Lindfors et al.	117	105_	10/11/02			
- 0	C.	6599572	7/29/2003	Saanila et al.	427	249.18	1/18/01			
	D.	2003/0140854	7/31/2003	Kilpi	118	715	2/13/03			
E	Ε.	6602784	8/5/2003	Sneh	438	680	8/6/02			
	F.	2003/0150385	8/14/2003	Bondestam et al.	118	722	3/6/03			
(G.	6616986	9/9/2003	Sherman	427	562	10/9/01			
ŀ	Н.	6620723	9/16/2003	Byun et al.	438	627	6/27/00			
ı	١	6627268	9/30/2003	Fair et al.	427	533				
	J.	2003/0183171	10/2/2003	Sneh et al.	118	724	3/27/03			
ŀ	K.	6630401	10/7/2003	Sneh	438	680	8/6/02			
ι	L.	6630030	10/7/2003	Suntola et al.	118	728	1/4/00			
	М.	6632279	10/14/2003	Ritala et al.	117	101	10/13/00			
1	N.	6635965	10/21/2003	Lee et al.	257	758	10/9/01			
(0.	6638862	10/28/2003	Sneh	438	685	8/6/02			
F	Ρ.	6638859	10/28/2003	Sneh et al.	438	680	9/27/02			
- (Q.	6638810	10/28/2003	Bakli et al.	438	240	11/5/01			
F	R.	6652924	11/25/2003	Sherman	427	576	5/24/01			
	S.	6660126	12/9/2003	Nguyen et al.	156	345.34	3/2/01			
1	т.	6664192	12/16/2003	Satta et al.	438	704	4/15/02			
·	U.	2004/0005753	1/8/2004	Kostamo et al.	438	222	3/20/03			
\	٧.	2004/0007171	1/15/2004	Ritala et al.	117	89	7/10/03			
\	W.	6679951	1/20/2004	Soininen et al.	148	240	11/13/01			
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PTO	D-1449		· · ·	Application No.	Applicant(s)	Applicant(s)					
				10/706,637	Jacques C.S	Jacques C.S. Kools et al.					
	Info	rmation Disclos		On Docket Number	Group Art U	Init	Filing Dat	e			
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	U.S. PATENT DOCUMENTS										
		DOCUMENT NO.	DATE	NAME	CLASS	SUBC	CLASS	FILIN	G DATE		
	A.	6689210	2/10/2004	Soininen et al.	117	ε	39	7/2	7/24/02		
	В.	6720260	4/13/2004	Fair et al.	438	8 680		6/20/			
	C.	2004/0076837	4/22/2004	Hein et al.	428	428 446		10/22/02			
	D.	2004/0076751	4/22/2004	Sherman	427	255.34		10/10/03			
	E.	6727169	4/27/2004	Raaijmakers et al.	438	438 622			8/23/00		
	F.	2004/0083949	5/6/2004	Sherman	117	ε	34	10/22/03			
	G.	6734020	5/11/2004	Lu et al.	436	5	55	3/7/01			
	Н.	2004/0121616	6/24/2004	Satta et al.	438	7	778 12/8/03		/8/03		
	I.	6759081	7/6/2004	Huganen et al.	427	5	58 4/30/		30/02		
	J.	2004/0130029	7/8/2004	Raaijmakers et al.	257	7:	758 12/15/03		15/03		
	K.	6764546	7/20/2004	Raaijmakers	117	117 93		12/10/02			
	L.	6767582	7/27/2004	Elers	427	2	53	10/12/00			
	M.	6777353	8/17/2004	Putkonen	438	7	85	4/8/03			
	N.	2004/0161636	8/19/2004	Hujanen et al.	428	6	92	2/17/04			
	О.	6794287	9/21/2004	Saanila et al.	438	6	74	3/2	20/03		
	Р.	6800173	10/5/2004	Chiang et al.	156	34	5.33	7/9/01			
	Q.	6800552	10/5/2004	Elers et al.	438	6	80	9/17/02			
	R.	2004/0202786	10/14/2004	Wongsenakhum et al.	427	2	50	3/:	31/04		
	S.	6811814	11/2/2004	Chen et al.	427	24	8.1	1/16/02			
	Т.	6818067	11/16/2004	Doering et al.	118	118 71			4/15/02		
	U.	6821889	11/23/2004	Elers et al.	438 680			7/30/02			
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